

**Matahio Energy Ltd Sidewinder
Production Station
Monitoring Programme
Annual Report
2023/24
Technical Report 2024-53**



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Monitoring Programme

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Taranaki Regional Council
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Executive summary

Matahio Energy Ltd (the Company) operates a hydrocarbon production station located on Upper Durham Road, Inglewood, in the Waitara catchment and in the rohe of Te Atiawa iwi. The Sidewinder Production Station processes condensate and gas from the Company's adjacent Sidewinder wellsite to supply the national natural gas transmission pipelines.

This report for the period July 2023 to June 2024 outlines the monitoring programme implemented by Taranaki Regional Council (the Council) to assess the Company's environmental performance and compliance with its three resource consents during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

During the year, the Company demonstrated a high level of environmental performance and a high level of administrative compliance with the resource consents.

The Company holds three resource consents authorising discharges from the Sidewinder Production Station, which include a total of 43 conditions setting out the requirements that the Company must comply with. The Company holds one consent to discharge treated stormwater and production water into the Piakau Stream, and two consents to discharge contaminants to air from flaring associated with the hydrocarbon production and exploration activities.

The Council's monitoring programme for the year under review included three site inspections, three instrumental air monitoring surveys, and two water quality monitoring surveys.

Inspections of the site found that it was generally tidy and well managed, although the monitoring officer noted several maintenance issues related to minor oil spills and the skimmer pit. These were attended to promptly. The results of the water quality monitoring determined that the discharges complied with the relevant consent conditions, and that there were not likely to be any significant adverse effects on the Piakau Stream. The ambient air quality monitoring at the site showed that levels of nitrogen oxide, carbon monoxide, and inhalable particulate matter were less than the relevant human health-based criteria at the time of sampling. No significant odour or dust was observed during inspections and there were no air quality-related complaints received.

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of the 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor.

This report recommends that the monitoring schedule for the 2024/25 year continues at the same frequency and scale as this monitoring year.

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1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2023 to June 2024 by Taranaki Regional Council (the Council) and details the monitoring programme associated with resource consents held by Matahio Energy Ltd (the Company). The Company operates the Sidewinder Production Station located on Upper Durham Road at Inglewood, in the Waitara catchment and rohe of Te Atiawa iwi. A description of the site processes can be found in Section 1.2.

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Company that relate to discharges of water within the Waitara catchment, and discharges to air from the site operations. This is the 10th annual report to be prepared by Council for the Sidewinder Production Station.

1.1.2 Structure of this report

Section 1 of this report sets out general information about:

- consent compliance monitoring under the *Resource Management Act 1991* (RMA) and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consents held by the Company in the Waitara catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted at the Sidewinder Production Station.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2024/25 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The RMA primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
- b. physical effects on the locality, including landscape, amenity and visual effects;
- c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
- d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
- e. risks to the neighbourhood or environment.

In drafting and reviewing conditions of discharge consents, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' in as much as is appropriate for each activity. Monitoring programmes are not only based on existing consent conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental performance

Besides discussing the various details of the performance and extent of compliance by the consent holders, this report also assigns a rating as to each Company's environmental and administrative performance during the period under review. The rating categories are high, good, improvement required and poor for both environmental and administrative performance. The interpretations for these ratings are found in Appendix II.

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of the 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor.

1.2 Site history and process description

The Sidewinder Production Station (Figure 1) was commissioned in 2011 following the successful drilling and testing of the Sidewinder-1, 2, 3 and 4 exploration wells, which produced gas-rich condensate. A major site expansion to the southwest of the Production Station was carried out over the summer of 2012/13 to allow for the drilling of three further exploration wells in 2013. Upgrades were also made to the site facilities to allow for increased throughput of condensate and gas.

The facilities are designed to process up to 30 million cubic feet of gas per day, along with any associated condensate. Processed gas is exported to the North Island gas transmission network via a 3.5km pipeline which was constructed to provide a connection with the Sidewinder site. Condensate is transported by trucks from the load-out facility.

All chemical storage is contained within bunds and isolated from the stormwater system. Stormwater from these areas is diverted through a three-stage oil interceptor for treatment. The site's stormwater management system consists of open culvert ring-drains which capture general surface water run-off. All stormwater passes through two lined skimmer pits before discharging to the Piakau Stream at the south-eastern corner of the site.



Figure 1 Sidewinder Production Station and wellsite (2019)

1.3 Resource consents

The Company holds three resource consents for the discharge of contaminants to the environment which are summarised in Table 1 below. Summaries of the conditions for each consent are set out in Section 3.2 of this report. A summary of the various consent types issued by the Council is included in Appendix I, as are copies of the consents held by the Company during the period under review.

Table 1 Consents held by the Company for the Sidewinder Production Station

Consent number	Purpose	Granted	Review	Expires
7595-1	To discharge treated stormwater and production water from hydrocarbon exploration and production operations at the Sidewinder wellsite into the Piakau Stream	February 2010	-	June 2027
7777-1	To discharge emissions to air associated with production activities at the Sidewinder wellsite, including flaring from well workovers, and emergency situations, and other miscellaneous activities	February 2011	-	June 2027
7822-1	To discharge emissions into the air from the flaring of hydrocarbons arising from hydrocarbon production and processing operations, together with miscellaneous emissions, at the Sidewinder Production Station	June 2011	-	June 2027

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA imposes obligations on the Council to gather information, monitor and conduct research on the exercise of resource consents within the Taranaki region. The Council is also required to assess the effects arising from the exercising of these consents and report on them.

The Council may, therefore, make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations and seek information from consent holders.

The monitoring programme for the Sidewinder Production Station consisted of three primary components outlined below.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- liaison with resource consent holders about consent conditions, their interpretation and application;
- discussion about monitoring requirements;
- preparing for any consent reviews, renewals or new consent applications;
- advising on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

The Sidewinder Production Station was visited three times during the monitoring period. With regard to consents for discharges to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including odour, dust, and hazardous air pollutants (HAPs). Sources of data collected by the Company were identified and accessed so that operational performance, internal monitoring, and supervision could be reviewed by the Council. The receiving environment was surveyed for environmental effects.

1.4.4 Environmental Sampling

Water quality sampling of the Sidewinder Production Station stormwater and production water discharge and two locations in the Piakau Stream was carried out on two occasions during the monitoring period. Samples from all three locations were analysed for chloride, conductivity, hydrocarbons, pH, and suspended solids. This enables the stormwater discharge to be monitored for compliance with the limits in condition 9 of consent 7595-1, and to monitor the change in stream quality as a result of the stormwater discharges.

The Council undertook sampling of the ambient air quality to measure the concentration of nitrogen oxides (NO_x), carbon monoxide (CO), combustible gases and inhalable particulate outside the boundary of the site and the details can be found in Section 2.3.1.

2. Results

2.1 Inspections

25 October 2023

Activities associated with stormwater management, such as appropriate bunding of chemical products, as well as ambient air quality were assessed. Those conditions that were assessed were found to be compliant with no issues noted.

24 May 2024

The site was reported to be clean and tidy. Used 44-gallon drums were stored inside the tank bund. It was noted that produced water was being unloaded to a tanker. The tanker was positioned on the leased property (gravel) rather than on the concrete loading pad. This was raised with the site manager to understand the risks involved in the event of the spill. It was noted that drill trays were in place, as were rubber mats. The process is supervised during the entirety of the loading period so quick action can be taken to prevent spillage should this occur. The pump was located within the tank bund. It was noted that crude oil was on the ground and on some of the pipework of the SWA1 wellhead. The site manager advised that contractors were responsible for the discharge. The site manager was advised that better controls need to be in place to ensure contractors clean up or put appropriate controls in place to capture and contain spillage during wellhead operations.

The bunding of consumables was adequate. The area around the LPS V-3103 tank was in need of cleaning as product has spilled onto the ground from bleeding valves. A pilot flare was being maintained. No visible smoke, flame, heat haze or odour was detected onsite. The skimmer pits were in need of attention as the level of both pits were below the discharge pipe. The matter had been raised during previous inspections and no action appeared to have been made. The Company was advised to address this issue.

26 June 2024

Those conditions that were assessed were found to be compliant at the time of inspection. A very small pilot flare was in operation. In general, the site was clean and tidy with areas of concern during the last inspection having been actioned. The skimmer pits appear to not be functioning correctly, with the water level observed below the discharge point. The Company was advised to attend to this as soon as possible to avoid enforcement action.

2.2 Water quality monitoring

Consent 7595-1.3 imposes limits on certain parameters in the quality of the stormwater and production water discharge, and on effects on the receiving Piakau Stream. Two sampling surveys were completed this year, on 18 October 2023 and 21 May 2024 during conditions described as "drizzle" or "light rain". The results of the surveys are presented in the tables below and includes the relevant consent limits where applicable. The consent limits apply to the quality of the stormwater discharge as well as to in-stream values impacted by the discharge.

Table 2 Stormwater discharge sample results, 18 October 2023

Parameter	Units	IND002050	Consent limits
Chloride	g/m ³	1.2	50
Conductivity @25°C	mS/m	1.0	-
Total Hydrocarbons	g/m ³	<0.7	15
Suspended solids	g/m ³	3	100
Temperature	Deg. C	13.4	-
pH		6.5	6.0 – 9.0
Turbidity	FNU	3.0	-

Table 3 Piakau Stream samples results, 18 October 2023

Parameter	Units	Upstream site PIK000159	Downstream site PIK000166	Consent limits
Chloride	g/m ³	5.5	5.5	-
Conductivity @25°C	mS/m	4.6	4.7	-
Hydrocarbons	g/m ³	<0.7	<0.7	No conspicuous oil films or foams
Suspended solids	g/m ³	5	6	No conspicuous change
Temperature	Deg. C	11.4	11.8	< 2°C increase
pH		7.1	7.2	-
Turbidity	FNU	3.2	3.5	No conspicuous change

The results of the stormwater discharge analysis all complied with the relevant consent limits, and most parameters in the discharge were lower than those in the instream samples. The concentration of chloride in the discharge was 1.2g/m³, 2% of the consent limit and 4.2g/m³ lower than the Piakau Stream results. Notably, the suspended solids concentration in the discharge was 3% of the consent limit, 50% lower than the Piakau Stream results. High suspended solids can have detrimental effects on water clarity and aquatic organisms. The differences between the upstream and downstream results indicate that the stormwater discharge was having little to no detrimental effect on water quality in the Piakau Stream at the time. There were no visible changes in the downstream water quality reported at the time of the survey.

Table 4 Stormwater discharge sample results, 21 May 2024

Parameter	Units	21 May 2024	Consent limits
Chloride	g/m ³	3.0	50
Conductivity @25°C	mS/m	2.3	-
Total Hydrocarbons	g/m ³	<0.7	15
Suspended solids	g/m ³	10	100
Temperature	Deg. C	10.7	-
pH		6.7	6.0 – 9.0
Turbidity	FNU	7.3	-

Table 5 Piakau Stream samples results, 21 May 2024

Parameter	Units	Upstream site PIK000159	Downstream site PIK000166	Consent limits
Chloride	g/m ³	7.9	8.2	-
Conductivity @25°C	mS/m	10.7	10.7	-
Hydrocarbons	g/m ³	<0.7	<0.7	No conspicuous oil films or foams

Parameter	Units	Upstream site PIK000159	Downstream site PIK000166	Consent limits
Suspended solids	g/m ³	10	9	No conspicuous change
Temperature	Deg. C	10.3	10.7	<2 °C increase
pH		7.7	7.7	-
Turbidity	FNU	5.1	7.0	No conspicuous change

The results of the stormwater discharge sample analysis on 21 May 2024 were also substantially less than the relevant consent conditions. The most significant difference was in the turbidity results where there was a 1.9FNU (Formazin Nephelometric Units) increase in the downstream turbidity. This is likely a result of the stormwater discharge which was 7.3FNU, higher than the upstream turbidity of 5.1FNU. This result could be caused by elevated suspended solids in the stormwater discharge, although all samples reported low suspended solids concentrations of 9 or 10g/m³. Both stream sections were described as slightly turbid and light brown in colour. A small amount of foam was noted upstream of the discharge. There were no visible changes in the downstream water quality reported at the time of the survey.

2.3 Air quality monitoring

2.3.1 Instrumental monitoring

Carbon monoxide and combustible gases

Exposure to low levels of CO can cause nausea, dizziness, and disorientation. Higher levels of CO can cause coma, collapse and loss of consciousness. The National Environmental Standards for Air Quality (NES: AQ, MfE, 2004) includes an Ambient Air Quality Standard (AAQS) for exposure to CO of 10mg/m³ averaged over an 8-hr period. Lower Explosive Limit (LEL) is the concentration of flammable gas, vapour, or mist in ambient air, below which an explosive gas atmosphere will not be formed. In past years methane has been used as a proxy for LEL and is measured using the MultiRae.

During this monitoring year a MultiRae gas detector was deployed on 15 April 2024 and recovered 49 hours later. There was no flaring of wellstream gas during the deployment however, there may be fugitive emissions from equipment. During the deployment the concentration of CO and LEL recorded by the instrument did not exceed zero at any time.

This may be due to:

- Absence of emissions from the site
- Equipment malfunction
- Unsuitable wind conditions

Since monitoring began in 2015 the concentration of CO measured at the monitoring locations has never exceeded or even approached the AAQS limit. Last year the maximum instantaneous CO concentration was 0.7ppm (1.3mg/m³), significantly lower than the AAQS limit of 10mg/m³. Last year the instrument recorded methane at 0% of the LEL. This low result is to be expected given that methane will likely readily disperse over the distance between the source and the instrument.

There have not been any significant changes to activities on-site or scale of production, and the Company records show a decrease in flaring of wellstream gas compared to previous years (2.3.2). On this basis it is

unlikely that the concentration of CO and percentage LEL at the monitoring site during this monitoring year would be significantly different than last year.



Figure 2 Air monitoring sites at Sidewinder Production Station

PM₁₀ particulate

PM₁₀ can enter deep into the lungs significantly reducing the exchange of gases across the lung walls. Inhalation of PM₁₀ at high concentrations can cause cardiovascular conditions such as asthma and chronic pulmonary diseases.

PM₁₀ is derived from multiple natural and anthropogenic sources including vehicle emissions, crustal matter and the combustion of fossil fuels. The Sidewinder Production Station is located in a rural area and the background level of PM₁₀ is likely to be a result of emissions from vehicles using Upper Durham Road, dust from unsealed roads, and other rural activities such as fertiliser application. There was no flaring of wellstream gas during the deployment.

The results of both particulate monitoring surveys are in Table 6 and Table 7 below. During the survey on 15 April 2024 the maximum (five minute average) PM₁₀ concentration was 19 $\mu\text{g}/\text{m}^3$ and the 99thile was 13.8 $\mu\text{g}/\text{m}^3$. The results indicate that the majority of PM₁₀ was in the PM_{2.5} size fraction, with a maximum of 18 $\mu\text{g}/\text{m}^3$. This result is expected because the combustion of natural gas results in a greater proportion of PM_{2.5} than PM₁₀. The 24-hour average results were substantially lower than the relevant human health assessment criteria. The maximum 24-hour average concentrations was 1.6 $\mu\text{g}/\text{m}^3$ compared to the AAQS of 50 $\mu\text{g}/\text{m}^3$. Likewise, the 24-hour average PM_{2.5} concentration was 1.1 $\mu\text{g}/\text{m}^3$, substantially lower than the World Health Organisation guideline value of 15 $\mu\text{g}/\text{m}^3$.

Table 6 Results of particulate monitoring, 15 April 2024

Pollutant	Maximum ($\mu\text{g}/\text{m}^3$)	99 th ile ($\mu\text{g}/\text{m}^3$)	Maximum 24-hr average ($\mu\text{g}/\text{m}^3$)
PM ₁₀	19.0	13.8	1.6
PM _{2.5}	18.0	13.8	1.1

During the 22 April deployment the ambient concentrations of PM₁₀ and PM_{2.5} were higher than the previous deployment (Table 7), but still lower than the relevant assessment criteria. The maximum reported (five minute average) PM₁₀ concentration was 36 $\mu\text{g}/\text{m}^3$ and the 99thile value was 26 $\mu\text{g}/\text{m}^3$. Similar to the first survey, PM_{2.5} comprised most of the PM₁₀, with a maximum five minute average of 35 $\mu\text{g}/\text{m}^3$ and a 99thile value of 25 $\mu\text{g}/\text{m}^3$. The instrument stopped after 20 hours so the 24-hour average concentrations were not able to be calculated. The mean concentrations were 1.5 and 1.3 $\mu\text{g}/\text{m}^3$ respectively, indicating that the 24-hour averages did not approach the relevant human health assessment criteria.

Table 7 Results of particulate monitoring, 22 April 2024

Pollutant	Maximum ($\mu\text{g}/\text{m}^3$)	99%ile ($\mu\text{g}/\text{m}^3$)	Mean ($\mu\text{g}/\text{m}^3$)
PM ₁₀	36	26	1.5
PM _{2.5}	35	25	1.3

Nitrogen oxides

A portion of total NO_x includes nitrogen dioxide (NO₂) which can cause adverse health impacts as a result of short and long-term exposure durations. Short-term exposure to high concentrations can result in the inflammation of airways which may exacerbate asthma and other pre-existing respiratory problems. Long-term exposure to NO₂ may adversely impact lung development in children and may lead to the development of asthma. The risk of developing certain forms of cancer and premature death also increases with long-term exposure to NO₂. The AAQS for NO₂ of 200 $\mu\text{g}/\text{m}^3$ as a 1-hour average. A non-statutory guideline value of 100 $\mu\text{g}/\text{m}^3$ as a 24-hour average is also provided in the Ambient Air Quality Guidelines (AAQG, MfE, 2002).

The NO_x data are used as a proxy for NO₂ and the calculated TWAs are compared to the relevant health-based assessment criteria for NO₂ in Table 8 below.

Table 8 Lab data and calculated TWA (<=less than the limit of detection)

Monitoring site	NO _x result (μg)	NO _x 1-hr average ($\mu\text{g}/\text{m}^3$)	NO _x 24-hr average ($\mu\text{g}/\text{m}^3$)
AIR007831	<0.3	1.04	0.55
AIR007832	<0.3	1.04	0.55
NO ₂ Assessment criteria		200 (AAQS)	100 (AAQG)

As shown in Table 8 the quantity of NO_x present on the passive samplers was below the level that can be reliably measured by the laboratory. Based on these results the calculated 1-hr average concentration of NO_x was a maximum of 1.04 $\mu\text{g}/\text{m}^3$ at each location. This result is significantly lower than the NO₂ AAQS limit of 200 $\mu\text{g}/\text{m}^3$. It is also the second lowest recorded results at this location since monitoring started in 2012. Similarly, the 24-hr average concentration at each of the monitoring locations was a maximum of 0.55 $\mu\text{g}/\text{m}^3$. This result is significantly lower than the AAQG of 100 $\mu\text{g}/\text{m}^3$.

Only a portion of NO_x is NO₂ and therefore the actual concentration of NO₂ at the monitoring locations will be somewhat less than reported. The 1-hr and 24-hr results are likely to be representative of background concentrations in rural areas.

2.3.2 Non-routine flaring

Routine operational flaring (Figure 3) of process gas at Sidewinder Production Station is continuous and occurs under normal conditions in a low pressure flare. Non-routine flaring may be required under certain circumstances and the Company is required to report this to the Council on a monthly basis. This year there were 4 non-routine flaring incidents at the site compared to 29 during the previous monitoring year (Table 9). On two occasions flaring was necessary due to mechanical failure, while the remaining two instances were due a process upset and facility start up.



Figure 3 Burning flare in the flare pit at the Sidewinder Production Station

Table 9 Summary of wellstream flaring at Sidewinder Production Station 2023/24

Date	Duration (hours)	Volume (000m ³)	Reason
04 August 2023	0.1	0.32	Facility Start Up
09 October 2023	0.45	0.07	Process Upset
11 October 2023	0.15	0.2	Mechanical Failure
13 October 2023	7	1.8	Mechanical Failure
Total	8.1	2.39	

The total volume of gas combusted in the flare over the 2023/24 monitoring year was 2390m³ (Table 9) compared to 59,745m³ during the previous monitoring year. The largest volume of flaring emissions in any month was 1800m³ in October 2023 from two events. Last year there were 29 non-routine flaring events. The Company reported that there was no smoke observed during any of the flaring incidents and no air quality-related complaints were received by Council or the Company.

2.4 Incidents, investigations, and interventions

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the Company. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach that avoids issues occurring is favoured.

For all significant compliance issues, as well as complaints from the public, the Council maintains a database. The database includes events where the individual/organisation concerned has itself notified the Council. Details of any investigation and corrective action taken are recorded for non-compliant events.

Complaints may be associated with a particular site. If there is an issue of legal liability, the Council must be able to prove by investigation that the identified individual/organisation is the source of the incident (or that the allegation cannot be proven).

The Council was not required to attend any incidents or undertake any investigations or interventions. There were no complaints received by the Company or the Council.

3. Discussion

3.1 Discussion of site and environmental performance

Site inspections of the Sidewinder Production Station during the 2023/24 year found that the site was generally well managed. Several minor 'housekeeping' issues were identified, notably a crude oil spill on the ground and on some of the pipework of the SWA1 wellhead. On two occasions the water level in the skimmer pit was deemed to be too low and the site was advised to attend to this promptly. The Company has scheduled the replacement of the skimmer pit liner in August 2024.

The sampling and analysis of the stormwater discharge and Piakau Stream during this monitoring year indicate that the site is maintaining a high quality of stormwater. In general, the discharge was of a higher quality than the stream at the time of the survey. The stream samples were likely affected by rainfall either during or preceding the sampling which may have increased the suspended solids, turbidity and chloride values. The site inspections did not find any compliance issues with the stormwater system. Overall the site is adequately managing the stormwater generated on the site in a manner which is largely avoiding significant adverse water quality effects on the receiving Piakau Stream.

The air quality monitoring survey determined that the concentrations of NO_x, fine particulate and gases at the boundary were low and likely representative of background concentrations rather than site emissions. As there was no flaring during the deployments any contributions from the site were likely from fugitive discharges and natural sources. The results are within the range of values reported at other production stations. In addition, there are no people living nearby who might be at risk of health effects from exposure to these HAPs.

3.2 Evaluation of compliance performance

A summary of the consent holder's compliance record for each consent for the year under review is set out in Table 10 to Table 12. The Company was fully compliance with all relevant consent conditions and is rated high for environmental performance and high for compliance performance. The Company has received a high rating each year since the programme began in 2013-2014 (Table 13).

Table 10 Summary of performance for consent 7595-1

Purpose: To discharge treated stormwater and production water from hydrocarbon exploration and production operations at the Sidewinder wellsite into the Piakau Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of the best practicable option	Inspection and liaison with consent holder	Yes
2. Maximum stormwater catchment area	Inspection and company records	Yes
3. Notification to Council seven days prior to site works and well drilling	No site works during monitoring period	N/A
4. Maintenance of a contingency plan	Latest update received May 2023	Yes
5. Design and maintenance of stormwater system in accordance application documentation	Inspection and liaison with consent holder	Yes
6. All stormwater and produced water discharged through treatment system	Inspection	Yes
7. Skimmer pits to be lined with impervious material and have shut off valves	Inspection	Yes

Purpose: To discharge treated stormwater and production water from hydrocarbon exploration and production operations at the Sidewinder wellsite into the Piakau Stream		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
8. Bunding and containment of hazardous substances	Inspection	Yes
9. Limits on constituents in the discharge	Sampling	Yes
10. Temperature increase of not more than 2° Celsius in receiving waters	Sampling	Yes
11. Limits on effects in receiving waters	Sampling	Yes
12. 48 hrs notice prior to reinstatement	Site still active	N/A
13. Lapse provision	Consent exercised	N/A
14. Optional review provision	No further option for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 11 Summary of performance for consent 7777-1

Purpose: To discharge emissions to air associated with production activities at the Sidewinder wellsite, including flaring from well workovers, and emergency situations, and other miscellaneous activities		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notification prior to continuous flaring	Notifications received	Yes
2. Notification of neighbours prior to flaring	No complaints received	Yes
3. Effective liquid and solid separation prior to flaring	Inspection and notifications	Yes
4. Only gaseous hydrocarbons to be flared	Inspection and notifications	Yes
5. Adoption of best practicable option to minimise effects from the flare	Inspection and air monitoring	Yes
6. No offensive odour or smoke beyond boundary	Inspection	Yes
7. Hydrocarbon storage vessels to have vapour recovery systems	Inspection	Yes
8. Control of carbon monoxide emissions	Sampling	Yes
9. Control of nitrogen oxide emissions	Sampling	Yes
10. Control of emissions to meet WES limits for other contaminants	Sampling	Yes
11. Analysis of typical gas and condensate stream	Analysis not requested	N/A
12. Keep and maintain a flaring log	Inspection and annual flaring report	Yes
13. Lapse provision	Consent exercised	N/A
14. Optional review provision	No further option for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 12 Summary of performance for consent 7822-1

Purpose: To discharge emissions into the air from the flaring of hydrocarbons arising from hydrocarbon production and processing operations, together with miscellaneous emissions, at the Sidewinder Production Station		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option to minimise effects from the flare	Inspection and air monitoring	Yes
2. Keep and maintain a flaring log	Inspection and annual flaring report	Yes
3. Monthly flaring information supplied	Information received	Yes
4. Provision of annual flaring and air emissions report	Report received	Yes
5. Keep and maintain a record of smoke emitting incidents	Inspection and annual flaring report	Yes
6. Analysis of typical gas and condensate stream	Analysis not requested	N/A
7. Consultation prior to plant alterations which may alter flare emissions	Inspection and liaison with consent holder	N/A
8. Notification of continuous flaring	Notifications received	Yes
9. No offensive odour, dust or smoke beyond boundary	Inspection and public notification	Yes
10. No hazardous/toxic/noxious contaminants beyond boundary	Inspections and qualitative assessment	Yes
11. Control of carbon monoxide emissions	Inspections and qualitative assessment	Yes
12. Control of nitrogen dioxide emissions	Air monitoring	Yes
13. Control of emissions to meet WES limits for other contaminants	Air monitoring	Yes
14. Lapse provision	Consent exercised	N/A
15. Optional review provision	No further option for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 13 Evaluation of environmental performance over time

Year	Consent numbers	High	Good	Improvement required	Poor
2019/20	7595-1, 7777-1, 7822-1	3	-	-	-
2020/21	7595-1, 7777-1, 7822-1	3	-	-	-
2021/22	7595-1, 7777-1, 7822-1	3	-	-	-
2022/23	7595-1, 7777-1, 7822-1	3	-	-	-
2023/24	7595-1, 7777-1, 7822-1	3	-	-	-

During the monitoring period, the Company generally demonstrated a high level of environmental performance. All consents were rated 'high' for the administrative performance. The minor housekeeping issues noted during the inspections are not considered significant enough to reduce the rating.

3.3 Recommendations from the 2022/23 Annual Report

In the 2022/23 Annual Report, it was recommended:

1. THAT monitoring of consented activities at the Sidewinder Production Station in the 2023/24 year shall continue at the same level as in 2022/23.
2. THAT should there be issues with environmental or administrative performance in 2023/24, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

These recommendations were implemented.

3.4 Alterations to monitoring programmes for 2024/25

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account:

- the extent of information already made available through monitoring or other means to date;
- its relevance under the RMA;
- the Council's obligations to monitor consented activities and their effects under the RMA;
- the record of administrative and environmental performances of the consent holder; and
- reporting to the regional community.

The Council also takes into account the scope of assessments required at the time of renewal of consents, and the need to maintain a sound understanding of industrial processes within Taranaki exercising resource consents.

The 2023/24 programme represented a low-level of monitoring due to the high rating the site has achieved for several years now. Based on the ongoing high performance no changes have been made to the 2024/25 monitoring programme. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2024/25.

4. Recommendations

1. THAT monitoring of consented activities at the Sidewinder Production Station in the 2024/25 year shall continue at the same level as in 2023/24.
2. THAT should there be issues with environmental or administrative performance in 2024/25, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

AAQG	New Zealand Ambient Air Quality Guidelines (MfE, 2002)
AAQS	National Environmental Standards for Air Quality: Ambient Air Quality Standards (MfE, 2004)
Bund	A wall around a tank to contain its contents in the case of a leak
CO ₂	Carbon dioxide
FNU	Formazin Nephelometric Units
g/m ³	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident
LEL	Lower Explosive Limit
MfE	Ministry for the Environment
NES-AQ	National Environmental Standard
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxides
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment
PM ₁₀ /PM _{2.5}	Particulate matter with an aerodynamic diameter less than 10/2.5 micrometres
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal consents (Sections 12, 14 and 15), water consents (Section 14) and discharge consents (Section 15)
RMA	<i>Resource Management Act 1991</i> and including all subsequent amendments
WES	Workplace Exposure Standards

For further information on analytical methods, contact a manager within the Environment Quality Department.

Bibliography and references

- Ministry for the Environment. 2018. Best Practice Guidelines for Compliance, Monitoring and Enforcement under the Resource Management Act 1991. Wellington: Ministry for the Environment.
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- Taranaki Regional Council (2024): Tamarind New Zealand Onshore Ltd Sidewinder Production Station Monitoring Programme Annual Report 2022/23. Technical Report 2023-43.
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- Taranaki Regional Council (2020): TAG Oil (NZ) Ltd Sidewinder Production Station Monitoring Programme Annual Report 2018-2019. Technical Report 2019-35.
- Taranaki Regional Council (2019): TAG Oil (NZ) Ltd Sidewinder Production Station Monitoring Programme Annual Report 2017-2018. Technical Report 2018-45.
- Taranaki Regional Council (2018): TAG Oil (NZ) Ltd Sidewinder Production Station Monitoring Programme Annual Report 2016-2017. Technical Report 2017-60.
- Taranaki Regional Council (2016): TAG Oil (NZ) Ltd Sidewinder Production Station Monitoring Programme Annual Report 2015-2016. Technical Report 2016-25.
- Taranaki Regional Council (2016): TAG Oil (NZ) Ltd Sidewinder Production Station Monitoring Programme Annual Report 2014-2015. Technical Report 2015-101.
- Taranaki Regional Council (2014): TAG Oil (NZ) Ltd Sidewinder Production Station Monitoring Programme Biennial Report 2012-2014. Technical Report 2014-61.

Appendix I

Resource consents held by Matahio Energy Ltd

(For a copy of the signed resource consent
please contact the TRC Consents department)

Water discharge consents

Section 15(1)(a) of the RMA stipulates that no person may discharge any contaminant into water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or by national regulations. Consents authorising discharges to water are issued by the Council under Section 87(e) of the RMA.

Air discharge consent

Section 15(1)(c) of the RMA stipulates that no person may discharge any contaminant from any industrial or trade premises into air, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Consents authorising discharges to air are issued by the Council under Section 87(e) of the RMA.

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of Consent Holder: Matahio NZ Onshore Limited

Decision Date (Change): 5 August 2014

Commencement Date (Change): 5 August 2014 (Granted Date: 11 February 2010)

Conditions of Consent

Consent Granted: To discharge treated stormwater and production water from hydrocarbon exploration and production operations at the Sidewinder wellsite into the Piakau Stream

Expiry Date: 1 June 2027

Site Location: Sidewinder wellsite, 323 Upper Durham Road, Inglewood

Grid Reference (NZTM) 1703995E-5659276N

Catchment: Waitara

Tributary: Piakau

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants from the site.
2. Stormwater discharged shall be collected from a catchment area of no more than 1.85 ha.
3. The Chief Executive, Taranaki Regional Council, shall be notified in writing at least 7 days prior to any site works commencing, and again in writing at least 7 days prior to any well drilling operation commencing. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz.
4. The consent holder shall maintain a contingency plan that, to the satisfaction of the Chief Executive, Taranaki Regional Council, details measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not authorised by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.
5. The design, management and maintenance of the stormwater system shall be undertaken in accordance with the information provided in support of the original application for this consent and with any subsequent application to change consent conditions. Where there is conflict between the applications, the later application shall prevail, and where there is conflict between an application and the consent conditions, the conditions shall prevail.
6. All stormwater and produced water shall be directed for treatment through the stormwater treatment system identified in condition 5 before being discharged.
7. All skimmer pits and any other stormwater retention areas shall be lined with an impervious material to prevent seepage through the bed and sidewalls, and all skimmer pits shall have a valve that can be shut off to prevent any discharge from the site.
8. Any significant volumes of hazardous substances (e.g. bulk fuel, oil, drilling fluid) on site shall be:
 - a) contained in a double skinned tank, or
 - b) stored in a dedicated bunded area with drainage to sumps, or to other appropriate recovery systems, and not directly to the site stormwater system.

9. Constituents in the discharge shall meet the standards shown in the following table.

Constituent	Standard
pH	Within the range 6.0 to 9.0
suspended solids	Concentration not greater than 100 gm ⁻³
total recoverable hydrocarbons	Concentration not greater than 15 gm ⁻³
chloride	Concentration not greater than 50 gm ⁻³

This condition shall apply prior to the entry of the treated stormwater into the receiving waters of the Piakau Stream at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

10. After allowing for a mixing zone of 25 metres, the discharge shall not give rise to an increase in temperature of more than 2 degrees Celsius.
11. After allowing for a mixing zone of 25 metres, the discharge shall not give rise to any of the following effects in the receiving water:
- the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - any conspicuous change in the colour or visual clarity;
 - any emission of objectionable odour;
 - the rendering of fresh water unsuitable for consumption by farm animals;
 - any significant adverse effects on aquatic life.
12. The consent holder shall advise the Chief Executive, Taranaki Regional Council, in writing at least 48 hours prior to the reinstatement of the site and the reinstatement shall be carried out so as to minimise adverse effects on stormwater quality. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz.
13. This consent shall lapse on 31 March 2015, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
14. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2015 and/or June 2021, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 5 September 2023

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Matahio NZ Onshore Limited

Decision Date: 7 February 2011

Commencement Date: 7 February 2011

Conditions of Consent

Consent Granted: To discharge emissions to air associated with production activities at the Sidewinder wellsite, including flaring from well workovers, and emergency situations, and other miscellaneous activities

Expiry Date: 1 June 2027

Site Location: Sidewinder wellsite, 323 Upper Durham Road, Inglewood

Grid Reference (NZTM) 1703906E-5659287N

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. Other than in emergencies, the consent holder shall notify the Chief Executive, Taranaki Regional Council, whenever the continuous flaring of hydrocarbons [other than purge gas] is expected to occur for more than five minutes in duration. Notification shall be no less than 24 hours before the flaring commences. Notification shall include the consent number and be emailed to worknotification@trc.govt.nz.
2. At least 24 hours before any flaring, other than in emergencies, the consent holder shall provide notification to all residents within 300 metres of the wellsite of the commencement of flaring. The consent holder shall include in the notification a 24-hour contact telephone number for a representative of the consent holder, and shall keep and make available to the Chief Executive, Taranaki Regional Council, a record of all queries and complaints received in respect of any flaring activity.
3. To the greatest extent possible, all gas that is flared must first be treated by effective liquid and solid separation and recovery.
4. Only gaseous hydrocarbons originating from the well stream shall be combusted within the flare pit.
5. The consent holder shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any actual or potential effect on the environment arising from any emission to air from the flare, including, but not limited to having regard to the prevailing and predicted wind speed and direction at the time of initiation of, and throughout, any episode of flaring so as to minimise offsite effects [other than for the maintenance of a pilot flare flame].
6. The discharge shall not cause any objectionable or offensive odour or smoke at or beyond the boundary of the property where the wellsite is located.
7. All permanent tanks used as hydrocarbon storage vessels, shall be fitted with vapour recovery systems.
8. The consent holder shall control all emissions of carbon monoxide to the atmosphere from the flare so that, whether alone or in conjunction with any other emissions from the wellsite, the maximum ground level concentration of carbon monoxide arising from the exercise of this consent measured under ambient conditions does not exceed 10 milligrams per cubic metre [mg/m^3] [eight-hour average exposure], or 30 mg/m^3 one-hour average exposure] at or beyond the boundary of the property where the wellsite is located.

9. The consent holder shall control all emissions of nitrogen oxides to the atmosphere from the flare so that, whether alone or in conjunction with any other emissions from the wellsite, the maximum ground level concentration of nitrogen dioxide arising from the exercise of this consent measured under ambient conditions does not exceed 100 micrograms per cubic metre [$\mu\text{g}/\text{m}^3$] [24-hour average exposure], or 200 $\mu\text{g}/\text{m}^3$ [1-hour average exposure] at or beyond the boundary of the of the property where the wellsite is located.
10. The consent holder shall control emissions to the atmosphere from the wellsite and flare of contaminants other than carbon dioxide, carbon monoxide, and nitrogen oxides so that, whether alone or in conjunction with any emissions from the flare, the maximum ground level concentration for any particular contaminant arising from the exercise of this consent measured at or beyond the boundary of the property where the wellsite is located, is not increased above background levels:
 - a) by more than 1/30th of the relevant Occupational Threshold Value-Time Weighted Average, or by more than the Short Term Exposure Limit at any time [all terms as defined in Workplace Exposure Standards, 2002, Department of Labour]; or
 - b) if no Short Term Exposure Limit is set, by more than three times the Time Weighted Average at any time [all terms as defined in Workplace Exposure Standards, 2002, Department of Labour].
11. The consent holder shall make available to the Chief Executive, Taranaki Regional Council, upon request, an analysis of a typical gas and condensate stream from the field, covering sulphur compound content and the content of carbon compounds of structure C₆ or higher number of compounds.
12. The consent holder shall record and make available to the Chief Executive, Taranaki Regional Council, a 'flaring log' that includes:
 - a) the date, time and duration of all flaring episodes;
 - b) the zone from which flaring occurred;
 - c) the volume of substances flared;
 - d) whether there was smoke at any time during the flaring episode and if there was, the time, duration and cause of each 'smoke event'.
13. This consent shall lapse on 31 March 2016, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Consent 7777-1

14. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2015 and/or June 2021, for any of the following purposes:
- a) dealing with any significant adverse effect on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
 - b) requiring the consent holder to adopt specific practices in order to achieve the best practicable option to remove or reduce any adverse effect on the environment caused by the discharge; and/or
 - c) to alter, add or delete limits on mass discharge quantities or discharge or ambient concentrations of any contaminant.

Transferred at Stratford on 5 September 2023

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Matahio NZ Onshore Limited

Decision Date: 22 June 2011

Commencement Date: 22 June 2011

Conditions of Consent

Consent Granted: To discharge emissions into the air from the flaring of hydrocarbons arising from hydrocarbon production and processing operations, together with miscellaneous emissions, at the Sidewinder Production Station

Expiry Date: 1 June 2027

Site Location: Sidewinder Production Station, 323 Upper Durham Road, Inglewood

Grid Reference (NZTM) 1703971E-5659277N

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

Exercise of consent

1. The consent holder shall at all times adopt the best practicable option [as defined in section 2 of the Resource Management Act 1991] to prevent or minimise any actual or likely adverse effects on the environment associated with the discharge of contaminants into the environment arising from the emissions to air from the flare.

Recording and submitting information

2. The consent holder shall keep and maintain a log of all continuous flaring incidents lasting longer than 5 minutes and any intermittent flaring lasting for an aggregate of 10 minutes or longer in any 60-minute period. The log shall contain the date, the start and finish times, the quantity and type of material flared, and the reason for flaring. The log shall be made available to the Chief Executive, Taranaki Regional Council, upon request, and summarised annually in the report required under condition 4. Flaring, under normal operation in the low pressure flare, of rich mono-ethylene glycol degasser vapour, condensate tank vapours, non-condensibles from tri-ethylene glycol/mono-ethylene glycol regeneration and purge gas shall be excluded from this requirement.
3. The consent holder shall supply to the Taranaki Regional Council each month a copy of flaring information comprising: the type and amount of material flared [including any gas used to maintain a pilot flame], the date this was flared, the reason why flaring was undertaken, and an indication of whether smoke was produced from such flaring events.
4. The consent holder shall provide to the Taranaki Regional Council during May of each year, for the duration of this consent, a report:
 - a) detailing gas combustion at the production station flare, including but not restricted to routine operational flaring and flaring logged in accordance with condition 2;
 - b) detailing any measures that have been undertaken by the consent holder to improve the energy efficiency of the production station;
 - c) detailing any measures to reduce smoke emissions;
 - d) detailing any measures to reduce flaring,
 - e) addressing any other issue relevant to the minimisation or mitigation of emissions from the production station flare; and
 - f) detailing any complaints received and any measures undertaken to address complaints.

5. The consent holder shall keep and make available to the Chief Executive, Taranaki Regional Council, upon request, a record of all smoke emitting incidents, noting time, duration and cause. The consent holder shall also keep, and make available to the Chief Executive, upon request, a record of all complaints received as a result of the exercise of this consent.

Information and notification

6. The consent holder shall make available to the Chief Executive, Taranaki Regional Council upon request, an analysis of a typical gas and/or condensate stream from the Mt Messenger Formation, covering sulphur compound content and the content of compounds containing six or more carbon atoms in their molecular structure.
7. Prior to undertaking any alterations to the plant equipment, processes or operations, which may substantially alter the nature or quantity of flare emissions other than as described in the consent application, the consent holder shall first consult with the Chief Executive, Taranaki Regional Council, and shall obtain any necessary approvals under the Resource Management Act 1991.
8. The consent holder shall notify the Chief Executive, Taranaki Regional Council, as soon as practicable, whenever the continuous flaring of hydrocarbons [other than the flaring of rich mono-ethylene glycol degasser vapour, condensate tank vapours, non-condensibles from tri-ethylene glycol/mono-ethylene glycol regeneration and purge gas] is expected to occur for more than five minutes in duration.

Preventing and minimising emissions

9. The discharges authorised by this consent shall not, whether alone or in conjunction with any other emissions from the site arising, give rise to any levels of odour or dust or smoke that are offensive or obnoxious or objectionable at or beyond the boundary of the site as shown on attached aerial photograph [figure 1].
10. The consent holder shall not discharge any contaminant to air from the site at a rate or a quantity such that the contaminant, whether alone or in combination with other contaminants, is or is liable to be hazardous or toxic or noxious at or beyond the boundary of the site as shown on attached aerial photograph.
11. The consent holder shall control all discharges of carbon monoxide to the atmosphere from the flare, whether alone or in conjunction with any other emissions from the site, in order that the maximum ground level concentration of carbon monoxide arising from the exercise of this consent measured under ambient conditions does not exceed 10 milligrams per cubic metre [eight-hour average exposure], or 30 milligrams per cubic metre [one-hour average exposure] at or beyond the boundary of the site as shown on attached aerial photograph.
12. The consent holder shall control all discharges of nitrogen dioxide or its precursors to the atmosphere from the flare, whether alone or in conjunction with any other discharges to the atmosphere from the site, in order that the maximum ground level concentration of nitrogen dioxide arising from the exercise of this consent measured under ambient conditions does not exceed 200 micrograms per cubic metre [one hour average exposure], or 100 micrograms per cubic metre [twenty-four hour average exposure], at or beyond the boundary of the site as shown on attached aerial photograph [figure 1].

13. The consent holder shall control discharges to the atmosphere from the flare of contaminants other than carbon dioxide, carbon monoxide, and nitrogen oxides, whether alone or in conjunction with any other emissions from the site, in order that the maximum ground level concentration for any particular contaminant arising from the exercise of this consent, measured at or beyond the boundary of the site as shown on attached aerial photograph, is not increased above background levels:
- a) by more than 1/30th of the relevant Workplace Exposure Standard-Time Weighted Average [exposure averaged over a duration as specified for the Workplace Exposure Standard-Time Weighted Average], or by more than 1/10th of the Workplace Exposure Standard-Short Term Exposure Limit over any short period of time [all terms as defined in Workplace Exposure Standards, 2002, Department of Labour]; or
 - b) if no Short Term Exposure Limit is set, by more than the General Excursion Limit at any time [all terms as defined in Workplace Exposure Standards, 2002, Department of Labour].

Lapse and Review

14. This consent shall lapse on 30 June 2016, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
15. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2015 and/or June 2021, for the purposes of:
- a) dealing with any significant adverse effect on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
 - b) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by the discharge; and/or
 - c) to alter, add or delete limits on mass discharge quantities or discharge or ambient concentrations of any contaminant or contaminants.

Transferred at Stratford on 5 September 2023

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management



Aerial photograph showing site boundary [white line]

Appendix II

Categories used to evaluate environmental and administrative performance

Categories used to evaluate environmental and administrative performance

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. Administrative performance is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

Environmental Performance

High: No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.

Good: Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.

Improvement required: Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.

Poor: Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self-reports, or during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

High: The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.

Good: Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

Improvement required: Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.

Poor: Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.